

Application No. 10/696,160

Remarks

The Office Action of December 17, 2004, has been carefully considered. Reconsideration of this application, as amended, is respectfully requested.

Claims 1-8 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Applicant has amended the claims to remove any indefiniteness therein. Applicant has amended claim 1 to remove any indefiniteness found therein.

Claims 1-7 stand rejected under 35 U.S.C. 102(b) as being anticipated by Kunzmann et al.

Initially Applicant must point out that the applied references are not directed to the problems in which the present invention is directed to nor its solution. On page 8 of the specification, Applicant describes problems with contact charging and a solution in which the present invention is directed to

“contact type roll charging, any uncleaned toner or, more often, toner additives, get impacted into the surface of the BCR in the nip formed between it and the photoreceptor surface. Depending on the materials and the environmental conditions, this contamination can cause severe non-uniform charging. To overcome this problem, various configurations of cleaning technologies have been employed to clean the BCR surface. Because the materials are well impacted into the surface, very rough and abrasive cleaning must take place to clean the roll successfully, thereby shortening the life of the charging subsystem and increasing the cost of the charge cleaning system. In the non-contact system as described, the contamination is still present, but it does not impact into the surface of the BCR surface due to the 20-50 micron air gap between the charge roll surface and the photoreceptor surface. This allows for a very mild cleaning technique to keep the surface of the roll clean. In typical non-contact methods using a non-clipped AC voltage as shown in Figure 3, higher AC voltage is required to charge uniformly over the 20-50 micron gap causing the wear of the transport layer to become the life limiting factor in the xerographic system. To overcome this issue, others practiced in the art use a robust overcoat on the surface of the photoreceptor to increase life. The Applicants have found that robust

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overcoats can lead to other subsystem interactions that must be overcome, mostly related to cleaning/filming. However, the present invention wear is substantially reduce through clipping of the positive portion of the AC voltage so that robust overcoats are not required."

Kunzmann et al. teaches an apparatus for applying an electrical charge to a charge retentive surface, wherein a bias contact roll member is situated in contact with a surface of the photoreceptor. The bias contact roll member is supplied with an electrical bias including an oscillating voltage signal having a DC offset, wherein the oscillating voltage is clipped via a rectifier circuit to remove a predetermined polarity component thereof. Kunzmann et al. does not teach a resistive elastometric roll member situated spaced from a surface of the member to be charged. So accordingly, the present invention is not anticipated by Kunzmann et al.

Claims 1-8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kunzmann et al. in view of Sato et al. Sato teaches a charging device, an image forming apparatus including the charging device, an image carrier unit including the charging device and a charging roller, which faces a body to be charged and is applied with a voltage, are disclosed. The charging roller includes a metallic core and an elastic member covering the core. Films are respectively wrapped around and adhered to the opposite end portions of the elastic member. Springs press the charging roller toward a body to be charged, causing the elastic member to deform due to compression. The maximum deformation of the films, which deform along the outer periphery of the elastic member, is selected to be smaller than the thickness of each film in the radial direction of the charge roller. A gap is therefore formed between the elastic member and the body to be charged. This prevents the portion of the elastic member, which corresponds to an image forming region, other than opposite end portions from contacting the

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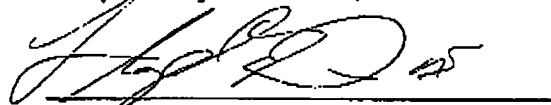
surface of the body to be charged. Sato et al. does not teach means for applying an electrical bias to said resistive elastometric roll member, the electrical bias including an oscillating voltage signal which is clipped to remove a selected polarity component thereof to supply a single polarity oscillating input drive voltage to said contact roll member.

The combination of Sato et al. and Kunzmann et al. does not teach or suggest the present invention so accordingly the is patentable distinguishable over the applied references.

No additional fee is believed to be required for this amendment. However, the undersigned Xerox Corporation attorney (or agent) hereby authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation Deposit Account No. 24-0025. This also constitutes a request for any needed extension of time and authorization to charge all fees therefor to Xerox Corporation Deposit Account No. 24-0025.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he is hereby directed to call Lloyd F. Bean, II, at Telephone Number 585-423-4520, Rochester, New York.

Respectfully submitted,



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